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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,386	12/27/2000	John S. Sadowsky	42390P9858	6353

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER

PATHAK, SUDHANSHU C

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 04/08/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,386

Applicant(s)

SADOWSKY, JOHN S.

Examiner

Sudhanshu C. Pathak

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 27th, 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 27th, 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-to-27 are pending in the application.

Drawings

2. The Figure 2 is objected to because of the following informalities:

- The Fig. 2, discloses the "subtracted signal" labeled as element "55", this should be re-labeled as element "52" as disclosed in the Specification, Page 7, line 6. Furthermore, element "55" is labeled as an "IF Signal" in Fig. 2 & Specification, Page 6, line 23.
- The Fig. 2, discloses the "filtered error signal" labeled as element "55", this should be re-labeled as element "59" as disclosed in the Specification, Page 8, line 3. Furthermore, element "55" is labeled as an "IF Signal" in Fig. 2 & Specification, Page 6, line 23.

Appropriate correction is required.

Specification

3. The disclosure is objected to because of the following informalities:

- The Specification on Page 7, lines 15 discloses "a subtracted signal 59", this should be relabeled as "52".
- The Specification on Page 7, lines 21 discloses "a subtracted signal 59", this should be relabeled as "52".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what it is meant by the term "an article".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-6, 10-11, 14-15, 19-22 & 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (3,655,917) in view of Wang (6,697,098).

Regarding to Claims 1, 11, 19-21 & 25-27, Levine discloses a portable communication device comprising a signal generator providing a feedback signal (Fig. 3, element "Mk" & Column 3, lines 20-41 & Abstract, lines 1-14) wherein the feedback signal is compared and subtracted to obtain the error signal. However, Levine does not disclose an analog-to-digital converter (ADC) coupled to the signal generator.

Wang discloses a portable communication device (Abstract, lines 1-5 & Column 1, lines 35-45) comprising an analog-to-digital converter (ADC) to provide a digital output signal (Fig. 1, element 19). Wang further discloses the portable communication device is adapted to subtract the feedback signal from an intermediate frequency (IF) signal (Fig. 1, elements 22, 24 & Fig. 3, element 340 & Fig. 5, element 410 & Column 6, lines 21-30). Wang further discloses the receiver comprising memory for storing instructions for the reception and demodulation of the received signals (Fig. 1, elements 22-50 & Column 3, lines 3-11 & Column 7, lines 35-50 & Column 4, lines 55-67 & Column 5, lines 1-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to implement the ADC to provide the digital output of the IF signal as described in Wang and coupled to the signal generator further providing the feedback signal as described in Levine, thus satisfying the limitations of the claim.

Regarding to Claims 2, 3 & 14, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal as described above. Wang further comprises a filter adapted to provide a filtered signal with a bandwidth (Fig. 1, element 16 & Column 2, lines 1-10, 36-44), wherein the signal generator generates a feedback signal that reduces the difference between the input IF signal and the feedback signal over a portion of the bandwidth of the filtered signal (Column 4, lines 12-45 & Fig. 3, elements 336-346 & Column 6, lines 11-32 & Fig. 4, elements 410-430). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that

implementing the bandpass filter as described in Wang isolates the information signal for further processing. Furthermore, Levine discloses the communication device adapted to change the digital signal in the feedback loop to reduce the difference between the incoming signal and the feedback signal.

Regarding to Claims 5, 6, 15 & 22, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal as described above. Levine further discloses the signal generator comprising a modulator (Fig. 3, element "Mk" & Column 3, lines 20-41). Levine further discloses implementing various different modulation / demodulation schemes for implementation in the receiver (Abstract, lines 1-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Levine in view of Wang satisfies the limitations of the claim. Furthermore, it is a matter of design choice for implementing an amplitude shift key modulation / demodulation and there is no criticality in the particular modulation schemes.

Regarding to Claim 10, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal as described above. Wang further discloses the communications device adapted to receive an input signal and output a, over-sampled version of the input signal, digital signal (Abstract, lines 1-13 & Column 2, lines 45-60 & Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Levine in view of Wang satisfies the limitations of the claim.

8. Claims 4, 7-9, 12-13, 16, 23 & 24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (3,655,917) in view of Wang (6,697,098) in further view of Ko et al. (6,577,674).

Regarding to Claims 4, 7, 12-13, 16, 23 & 24, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal and a bandpass filter as described above. However, Levine in view of Wang does not disclose the communication device further comprising a multiplier coupled to an integrator, wherein the multiplier is adapted to multiply a local oscillator signal and the filtered signal.

Ko discloses a receiver in a mobile station comprising a multiplier and a local oscillator (Fig. 1) wherein the incoming signal is down converted to a baseband signal for further processing and retrieving the transmitted data (message) (Fig. 1 & Column 2, lines 26-48). Ko further discloses further sampling the down converted signal for digitally processing the received signal for accurate retrieval (Fig. 1 & Column 2, lines 1-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to implement the multiplier and local oscillator as described in Ko in the receiver as described in Levine in view of Wang further down converting the bandpass filtered IF frequency signal to baseband for accurate sampling and demodulating. Furthermore, implementing the local oscillator and multiplier in the receiver as described in Levine in view of Wang couples the oscillator to the signal generator (modulator), thus satisfying the limitations of the claims.

Regarding to Claim 8, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal as described above. Levine further discloses the signal generator comprising a modulator (Fig. 3, element "Mk" & Column 3, lines 20-41). Levine further discloses implementing various different modulation / demodulation schemes for implementation in the receiver (Abstract, lines 1-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Levine in view of Wang satisfies the limitations of the claim. Furthermore, it is a matter of design choice for implementing an amplitude shift key modulation / demodulation and there is no criticality in the particular modulation schemes and the oscillator can be implemented such that the feedback signal is either in-phase or 180 degrees thus implementing an ASK modulation scheme.

Regarding to Claim 9, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal and a bandpass filter as described above. Wang further discloses the digital output signal comprises at least two bits (Fig. 3, elements "I" & "Q"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Levine in view of Wang in further view of Ko satisfies the limitations of the claims.

9. Claims 17 & 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (3,655,917) in view of Wang (6,697,098) in further view of Tolson (6,622,009).

Regarding to Claims 17 & 18, Levine in view of Wang discloses a portable communication device comprising an ADC, signal generator to generate a negative feedback signal as described above. However, Levine in view of Wang does not disclose the communications device further comprising an antenna adapted to receive a radio frequency (RF) signal.

Tolson discloses a receiver comprising an antenna to receive a radio frequency (RF) signal (Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Levine in view of Wang in further view of Tolson satisfies the limitation of the claim. Furthermore, the RF signal can be down converted as disclosed in Levine in view of Wang into an IF signal or the IF signal could be the received signal depending on the application, there is no difference between an RF signal or an IF signal except respective frequencies, they are both analog signals.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (703) 305-0341. The examiner can normally be reached (Monday-Friday from 8:30 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

- Commissioner of Patents and Trademarks Washington, D.C. 20231

Or faxed to:


- (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to:

- Crystal Part II, 2121 Crystal Drive, Arlington, VA, Sixth Floor
(Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to:

Technology Center 2600 Customer Service Office whose telephone number is
(703) 306-0377.


STEPHEN CHIN
SUPERVISORY PATENT EXAMINE
TECHNOLOGY CENTER 2600